

CLAIMS:

1. A carousel ride system, comprising:
a rotatable platform;
a plurality of figures that are configured to rotate with the rotatable platform;
and
a lift system that is configured to raise and to lower the plurality of figures relative to the rotatable platform along a vertical axis during ride operations and to position the plurality of figures at a same vertical height relative the rotatable platform along the vertical axis during loading and unloading operations.
2. The carousel ride system of claim 1, wherein the lift system comprises an annular track that is configured to move relative to the rotatable platform along the vertical axis.
3. The carousel ride system of claim 2, wherein the annular track comprises one or more undulations that extend circumferentially about the annular track.
4. The carousel ride system of claim 2, wherein each of the plurality of figures is supported on a respective support post that extends vertically through a respective opening in the rotatable platform, and the respective support post is coupled to a respective bogie.
5. The carousel ride system of claim 4, wherein the respective bogie comprises at least one wheel that is configured to be supported on a support frame during the loading and unloading operations and at least one other wheel that is configured to be supported on the annular track during the ride operations.
6. The carousel ride system of claim 2, wherein the lift system comprises a support frame positioned vertically below the rotatable platform, the support frame comprising an

annular gap, and the annular track is configured to move through the annular gap along the vertical axis.

7. The carousel ride system of claim 1, wherein the lift system comprises a shuttle assembly that is configured to be in a central position relative to an axis of rotation of the rotatable platform during the loading and unloading operations and that is configured to be in a laterally offset position relative to the axis of rotation of the rotatable platform during ride operations.

8. The carousel ride system of claim 7, wherein the lift system comprises a plurality of pulleys coupled to the shuttle assembly and supporting a plurality of cables, and each cable of the plurality of cables comprises a respective first end portion coupled to a respective figure of the plurality of figures and a respective second end portion coupled to the shuttle assembly.

9. The carousel ride system of claim 8, wherein the respective first end portion of each cable of the plurality of cables is coupled to the respective figure of the plurality of figures via a respective support post.

10. The carousel ride system of claim 1, wherein the lift system comprises a plurality of actuators, and each of the plurality of actuators is associated with a respective figure of the plurality of figures and is configured to independently drive movement of the respective figure of the plurality of figures relative to the rotatable platform along the vertical axis.

11. The carousel ride system of claim 10, wherein the plurality of actuators comprise a plurality of linear actuators.

12. A method of operating a carousel ride system, comprising:
positioning, using a lift system, a plurality of figures at a same vertical height relative to a rotatable platform along a vertical axis during loading operations;
moving, using the lift system, the plurality of figures up and down relative to the rotatable platform along the vertical axis during rotation of the rotatable platform and the plurality of figures during ride operations; and
positioning, using the lift system, the plurality of figures to the same vertical position relative to the rotatable platform along the vertical axis during unloading operations.
13. The method of claim 12, comprising moving an annular track of the lift system relative to the rotatable platform along the vertical axis.
14. The method of claim 13, comprising rolling wheels of bogies coupled to the plurality of figures along the annular track to enable movement of the plurality of figures up and down relative to the rotatable platform along the vertical axis during rotation of the rotatable platform and the plurality of figures during the ride operations.
15. The method of claim 14, wherein moving the annular track of the lift system comprises moving the annular track through an annular gap formed in a support frame positioned below the rotatable platform along the vertical axis.
16. The method of claim 15, comprising supporting other wheels of the bogies on the support frame to position the plurality of figures at the same vertical height during the loading operations and the unloading operations.
17. The method of claim 12, comprising adjusting a shuttle assembly of the lift system from a central position relative to an axis of rotation of the rotatable platform to a laterally offset position relative to the axis of rotation of the rotatable platform.

18. The method of claim 17, comprising sliding cables coupled to the plurality of figures over a plurality of shuttle pulleys coupled to the shuttle assembly to enable movement of the plurality of figures up and down relative to the rotatable platform along the vertical axis during rotation of the rotatable platform and the plurality of figures during the ride operations.

19. The method of claim 12, comprising adjusting a plurality of actuators that are each associated with a respective figure of the plurality of figures to independently drive movement of the plurality of figures.

20. A carousel ride system, comprising:

a rotatable platform;

a plurality of figures that are configured to rotate with the rotatable platform;

and

a lift system comprising a controller, wherein the controller is configured to control one or more actuators of the lift system to adjust one or more components of the lift system to cause the plurality of figures to repeatedly move up and down relative to the rotatable platform along a vertical axis during ride operations and to cause the plurality of figures to be at a same vertical height relative to the rotatable platform during loading and unloading operations.